

Remarks/Arguments

Summary

By this Amendment, claims 1, 12, 13 and 21 have been revised, claims 4 and 6-9 have been canceled, and new claims 22-26 have been added.

Accordingly, claims 1, 3, 5 and 10-26 are now pending in the application.

Double Patenting

Claims 1, 3-7 and 9-20 stand rejected under the judicially created doctrine of obviousness-type doubling patenting over claims of U.S. Patent No. 6,544,858 in view of Tsukune et al. (US 5314724). Without acquiescing to the reasoning underlying this rejection, Applicants will consider the filing of a Terminal Disclaimer as such time the application is otherwise in condition for allowance.

35 U.S.C. ¶102 – Tsukune et al. (claims 1, 3, 10, 14 and 17-20)

Claims 1, 3, 10, 14 and 17-20 stand rejected under 35 U.S.C. ¶102 as being anticipated by Tsukune et al. (US 5314724).

Applicants respectfully traverse this rejection for at least the reasons already of record. Further, at page 5 of the May 24, 2004, Office Action, the Examiner is reaching conclusions about quite complex chemistry without any perceptible basis for doing so. This is illustrated by the Examiner's comparisons of the treatments of the present claims and the Tsukune et al. reference. The Examiner seems to have overlooked the fact that Tsukune et al. operates by laying down a very thin layer (10nm), plasma treating that layer, and then laying down another very thin layer on top. The conclusion that the treatment is "milder" is arrived at without comparing like with like. Further, the Examiner has selected discharge power figures from what appears to be Tsukune's description of the chemical vapor deposition step rather than the plasma treatment step.

Further, Applicants strongly disagree with the Examiner's position that Tsukune et al. inherently teaches the presence of something (carbon) which Tsukune et al. expressly teaches is not there.

However, in an effort to expedite prosecution, independent claims 1 and 20 have been revised to recite that the processed layer is supported by an RF driven electrode which at least partially maintains the plasma. As would be understood by one of ordinary skill, the use of an RF driven platen results in substantial ion bombardment of the surface of any workpiece supported by the platen. Further, new claims 22 recites the plasma being generated in a Reactive Ion Etching (RIE) mode.

Applicants respectfully contend that all of the now pending claims define over the Tsukune et al. reference.

35 U.S.C. §103 – Li in view of Makita et al. (claims 2, 13)

Claims 1 and 3-20 stand rejected under 35 U.S.C. §103 as being obvious over Li (US 6383951) in view of Tsukune et al. Applicants respectfully traverse this rejection.

The Examiner contends that Tsukune et al. teaches the equivalence of hydrogen plasma and oxygen plasma. However, the Examiner seems to ignore the overall context of Tsukune et al. That is, Tsukune et al. is directed to a process intended to remove all the carbon of the processed film. Further, the plasma treatment of Tsukune et al. is explicitly described in connection with extremely thin films laid one on top of the other. Any alleged equivalence between hydrogen and oxygen plasma must be taken based on the teachings of Tsukune et al. as a whole. Li et al. intends to retain carbon, and it would not be obvious to look to the plasma treatment of Tsukune et al. which intends to achieve the opposite outcome.

Again, however, in an effort to expedite prosecution, independent claims 1 and 20 have been revised to recite that the processed layer is supported by an RF driven electrode which at least partially maintains the plasma. As noted above, the use of an

RF driven platen results in substantial ion bombardment of the surface of any workpiece supported by the platen. Further, new claim 22 recites the plasma being generated in a Reactive Ion Etching (RIE) mode.

Applicants respectfully contend that all of the now pending claims define over the combination of the Li et al. and Tsukune et al. references.

Conclusion

No other issues remaining, reconsideration and favorable action upon the claims 1, 3, 5 and 10-26 now pending in the application are requested.

Respectfully submitted,

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